

### REMARKS/ARGUMENTS

#### **Claim Status**

Claims 1 and 3-9 are pending. Claim 2 was previously canceled without prejudice. Claim 1 is amended to clarify that the higher  $\alpha$ -olefin polymer (a) is the *polymerization product* of  $\alpha$ -olefin(s) having 10 or more carbon atoms; support is found in original claim 7 as well as the specification: pages 86-90 (Examples 1-3). The amendment to Claim 1 is for clarification purposes only, as this “definition” of the higher  $\alpha$ -olefin polymer (a) was in the original specification (page 13, lines 16-22). Claim 4 is amended to correct an incorrect symbol conversion (i.e., “□” should read “Δ”). No new matter has been entered.

#### **Specification Objection**

The specification of the current application has again been objected to and “a substitute specification in proper idiomatic English” is requested.

Applicants previously pointed out MPEP 608.01 which states:

“The specification is a written description of the invention and of the manner and process of making and using the same. The specification must be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention pertains to make and use the same. See 35 U.S.C. 112 and 37 CFR 1.71. If a newly filed application obviously fails to disclose an invention with the clarity required by 35 U.S.C. 112, revision of the application should be required. See MPEP § 702.01.” (emphasis added).

However, the Examiner has responded to Applicants assertion that “the current specification enables one skilled in the art to make and use the invention disclosed therein” by alleging the following:

“Applicants quote MPEP 608.01 but have misinterpreted what is meant by ‘clear, concise and exact.’ The standard is not that it can be assessed from the written description, but that the description be written clearly, concisely and exactly, so that the invention may be practiced.” (emphasis added)

In response to the Examiner’s unsupported allegations, it should be pointed out that:

(i) the Examiner has not provided to date a single example of a part of Applicants' specification that is not "in such full, clear, concise, and exact terms as to enable any person skilled in the art ... to make and use the [invention],"

(ii) the Examiner himself has stated, "[t]he standard is ... that the description be written ... so that the invention may be practiced;" and

(iii) the Examiner appears to consider the claimed invention fully enabled in view of the prosecution history.

Therefore, absent the Examiner providing (i) a specific indication of a lack of clarity within the specification that prevents one skilled in the art to practice the invention, and/or (ii) evidence contrary to Applicants' position, a substitute specification is not necessary.

Applicants respectfully request withdrawal of this objection again.

### **Double Patenting**

Applicants respectfully request that this rejection be held in abeyance until the present application is in condition for allowance for the following reasons. A terminal disclaimer can be filed, if the claims in the present application remain obvious in view of the claims of U.S. patent application 10/511,099 and U.S. patent 7,109,283 at the time of allowance of the present application. Furthermore, additional amendments (if needed for allowance of these claims) may eliminate the double-patenting rejection, making the filing of a Terminal Disclaimer at this time premature. Indeed, M.P.E.P. § 804.02 IV states that, prior to issuance, it is necessary to disclaim each one of the double patenting references applied. Hence, Applicants respectfully request that the examiner contact the undersigned should the present amendments and arguments be accepted and should the present application be otherwise in condition for allowance. At that time, a terminal disclaimer if warranted can be supplied to expedite issuance of this case.

### **§103(a) Rejection**

Claims 1 and 3-9 are rejected under 35 U.S.C. §103(a) as obvious in view of *Momose* (US 5,718,835). Applicants respectfully traverse this rejection.

#### A. Claims 4-9

At the outset, it should be noted that the Examiner has not addressed Applicants' previous remarks/arguments with respect to a lack of *prima facie* obviousness over dependent claims 4-9 (See pages 7-8 of Applicants' previously filed amendment). This is in opposition to the Examiner's obligations under M.P.E.P. 707.07(f) which states: "Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it."

Additionally, the Examiner has again failed to address any of the additional limitations found in any of dependent claims 4-9 in the current Office Action. Namely, wherein the claimed higher  $\alpha$ -olefin polymer (a) must satisfy the following:

- (i) a stereospecific index value M2 (mol%) being 50 mol% or more (claim 4);
- (ii) a molecular weight distribution (Mw/Mn) being 1.2-4.0 (claim 4);
- (iii) a melting heat amount ( $\Delta H$ ) being 30J/g or more (claim 4);
- (iv) melting point ( $T_m$ ) at a peak top being 20-100°C (claim 5);
- (v) a spin-lattice relaxation time ( $T_1$ ) being observed in the melting point ( $T_m$ ) or higher (claim 5);
- (vi) X ray scattering peak (X1) at 15 deg<2 $\theta$ <30 deg (claim 5);
- (vii) a half band width ( $W_m$ ) being 10°C or lower (claim 6); and
- (viii) obtained by polymerization of  $\alpha$ -olefins in the presence of a catalyst comprising one or more of components (D), (E1) and (E2) and represented in claim 7.

For the Examiner's convenience, Applicants' previous argument is provided below:

Additionally, it should be noted that the Office has not addressed dependent claims 4-9 that predominantly further define the specific nature of the claimed "higher  $\alpha$ -olefin polymer". *Momose's* sparse disclosure with respect to olefins would not allow "the skilled artisan, following the teachings of the reference, to achieve the instantly claimed invention" as alleged by the Office (page 4). Contrary to the Office's position, *Momose's* lack of use of such olefins as the heat storage material and lack of any further disclosure of the desired characteristics of the olefins (e.g., M2, Mw, T1, X1, Wm, etc.) would not lead one skilled in the art to achieve the instantly claimed invention and the resulting benefits. Accordingly, the Office has not met its burden with respect to a showing of obviousness with respect to all claims and all claimed limitations therein; therefore a prima facie case of obviousness does not exist with respect to dependent claims 4-9.

Accordingly, Applicants again request that this rejection be withdrawn as the Office has not met its burden with respect to a showing of obviousness.

B. Claims 1 and 3-9

*Momose* discloses a heat storage composition prepared by mixing a heat storage component with a component comprising a thermoplastic elastomer and synthetic or natural rubber wherein the heat storage component comprises a wax and/or a higher monohydroxy alcohol (Abstract). Additionally, *Momose* discloses "normal alpha-olefins" (e.g., hexadecen-1, octadecen-1, eicosen-1), having a melting point of lower than 100°C, as a possible wax component among other possibilities such as paraffin wax, normal paraffin, wax and micro-crystalline wax (col. 3, lines 41-62).

*Momose* does not disclose or suggest Applicants' claimed composition comprising:

20 to 100 % by weight of a heat storage material,  
80 to 0 % by weight of a crystalline polyolefin (B), and  
50 to 0 % by weight of an elastomer (C),

wherein

the heat storage material comprises a side chain-crystalline polymer (A) that is a higher  $\alpha$ -olefin polymer (a) comprising 50 mole % or more of  $\alpha$ -olefin having 10 or more carbon atoms, and

the higher  $\alpha$ -olefin polymer (a) is obtained by polymerization of one or more of the  $\alpha$ -olefins having 10 or more carbon atoms [see claim 1].

The claimed higher  $\alpha$ -olefin polymer (a) is obtained by polymerizing higher  $\alpha$ -olefin monomers (i.e., with 10 or more carbon atoms) in the presence of a polymerization catalyst (see e.g., claim 7). These higher  $\alpha$ -olefin monomers can be hexadecen-1, octadecen-1, etc., (see e.g., Examples 1-3). Therefore, the higher  $\alpha$ -olefins such as hexadecen-1 and octadecen-1 are monomers of the polymer (a) and are not used as the heat storage material *per se*, instead, the higher  $\alpha$ -olefin monomers are the raw material components that make up the claimed higher  $\alpha$ -olefin polymer (a) that is a part of the claimed heat storage material.

In contrast, even though *Momose* discloses  $\alpha$ -olefins having at least 12 carbon atoms, preferably 14-18 or 14-20 carbon atoms (col. 3, lines 40-62), these  $\alpha$ -olefins are used as the heat storage material itself and *not* as monomers that are polymerized to produce a higher  $\alpha$ -olefin polymer which is then a component of the heat storage material as claimed. As *Momose* does not disclose or suggest the claimed higher  $\alpha$ -olefin polymer (a), that is obtained by polymerization of one or more of the  $\alpha$ -olefins having 10 or more carbon atoms, *Momose* does not render obvious Applicants' claims.

In addition, the claimed composition comprises at least 20% by weight of the heat storage material comprising the side chain-crystalline polymer (A). The specification explains how an amount less than 20% results in a reduced heat storage amount per unit volume and diminished overall performance of the heat storage composition (page 12, lines 20-25).

In contrast, not only is *Momose* silent with respect to any express disclosure of content limitations with respect to the "normal alpha-olefins", but it appears that *Momose* also does not include any such olefins in any of the exemplified embodiments. Therefore, in view of *Momose*'s lack of exemplary embodiments including the olefins, not only would one skilled in the art not consider the olefins to be an essential component to the heat storage

material but one could also not determine an effective amount of such olefins (e.g., at least 20%). Accordingly, *Momose* does not render obvious Applicants' claims.

Lastly, it should also be noted that the claimed side chain-crystalline polymer (A) is a comb type polymer that is a polymer with (i) a side chain comprising an aliphatic and/or aromatic group, and (ii) a skeleton (main chain) comprising an organic structure, wherein the side chain has a crystalline structure (specification: page 13, lines 1-7) Additionally, the length of the side chain (i) is five times greater than the distance between the chains (specification: page 13, line 8-15). These properties of the claimed side chain-crystalline polymer (A) results in the heat storage material comprising this polymer (A) to have the following beneficial/superior properties: (a) less sticky, (b) inhibited from being decomposed and vaporized at high temperature, (c) decreased bleeding, (d) large melting heat capacity, (e) less fragility at the melting point or lower, and (f) improved workability and processability (See Examples 1-9 as compared to Comparative Examples 1-2).

Accordingly, in view of *Momose*'s sparse disclosure with respect to olefins, one skilled in the art would not have expected the incorporation of a higher  $\alpha$ -olefin polymer like that claimed to provide a heat storage composition that is less sticky, resistant to decomposition and high-temperature vaporization, exhibits decreased bleeding, shows a large melting heat capacity, and improved workability and processability at the melting point of the composition due to improved stability (e.g., lack of fragility) (See Tables 3-5 and pages 86-90). Therefore, *Momose* does not render obvious Applicants' claims.

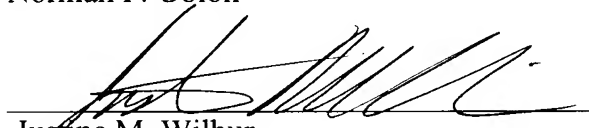
Thus, Applicants request withdrawal of the rejection in view of *Momose*.

**Conclusion**

For the reasons discussed above, Applicants submit that all now-pending claims are in condition for allowance. Applicants respectfully request the withdrawal of the rejections and passage of this case to issue.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Justine M. Wilbur', is written over a horizontal line.

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